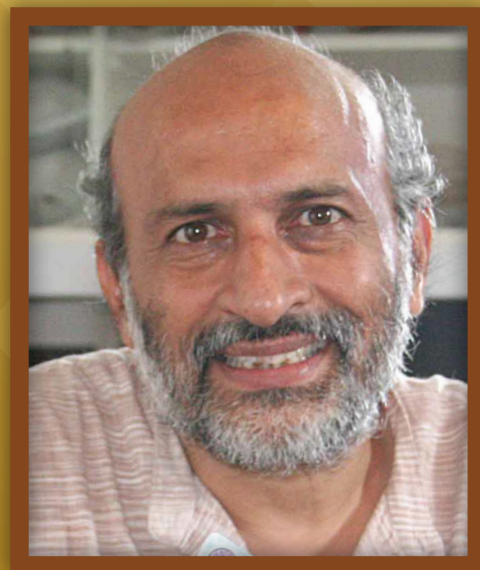


Toying With Trash



ARVIND GUPTA | Toy Inventor

Arvind Gupta is an IIT Kanpur graduate, who is a popular toy inventor. He has developed many useful, low-cost teaching aids, made of ordinary, everyday things and recycled material. He has received many national and international awards. He is also the recipient of the Padma Shri award for 2018.

Congratulations on receiving the Padma Shri! Your efforts have touched the lives of many children and has made science learning fun. Who/what inspired you to get into the field of science and later, become an educator?

In the early 1970s a lecture by Dr. Anil Sadgopal on the Hoshangabad Science Teaching Programme (HSTP) inspired me. The HSTP group was trying to revitalise the learning of science in village schools using low-cost fun activities. Later, I took a leave from Tata Motors and spent six months with the HSTP. Those six months opened up an entirely new world for me.

The very first month I designed the Matchstick-Valve Tube Mecanno. This gave me a lot of pleasure. I realised for the first time that I could use my background to create something meaningful and help many children and teachers.

In the early 1970s there was also a global political ferment - the Vietnam War; Civil Rights movement and the Naxalite movement. Many Scientists still remembered the Second World War and swore not to participate in war research. Many people were searching for a meaningful role for themselves.

From being an IIT graduate working in Telco to deciding to take science to students, how was the transition? How did it all begin?

The Tata Motors training for a Graduate Engineer Trainee is a dream. You learn things which you have never learnt in the IIT. For instance, for a month you do gas welding and electric welding. Another month you run the Lathe and Shaper. It taught you hard core skills. As a tinkerer, I was thrilled with the training. But much larger questions about mass poverty and education lurked in the mind. The small stint with the HSTP helped me realise that I could use my learning to benefit many. At that time there were very few inspiring books on education. The whole educational scenario was pretty bleak. We tried to make books like Divaswapna, Tottochan, Teacher, Summerhill, How Children Fail, Lives of Children, Danger! School, Letter to a teacher available to teachers through translations. Only when teachers read about exciting and adventurous experiments in education will their imaginations begin to soar.

Most of your toys are made of everyday items and garbage. What inspired you to turn trash into toys?

The HSTP experience was LEARNING BY DOING. Children experimented with simple, readily available material and tried to understand the laws of science. Many of our traditional toys are often made from scrap – throw away paper, cardboard, wire, etc. All dynamic toys incorporate principles of science. So, children could learn science intuitively in play. These toys don't cost much money, are handmade, so even the poorest children could afford them. Today we live in a consumerist society where Buy and Throw are the new norms. Children could make 50 toys from old tetra paks (Frooti, Appy packs). They could do over a 100 fascinating experiments with old plastic water bottles. Children could fold newspapers and make a dozen caps which they could wear.

What according to you are the challenges that teachers face in





making science simple for children?

Most teachers still adhere to the chalk and talk system. They come from a tradition where they themselves have never experienced the joy of making models. Any activity in the classroom which involves cutting and sticking is messy and abhorrent to teachers, because it also entails more work on their part.

There are other challenges too. Schools pay scant attention to simple conceptual science models. Only a burning candle can light another. Teacher Training Colleges are like extinguished candles. They have failed to light the spark.

You have written and translated many books, due to which content has become accessible to many children/learners across the country. Please tell us about it.

I was on the advisory board of the National Book Trust for several years. It

enabled me to see the poverty of material, the lack of good children's books in Hindi. So, I have translated books on Science, Math, Education, Environment and great children's books from all over the world and uploaded them on the web. I have translated over 400 books and it is very satisfying to produce good reading material for children in the Hindi belt. There are 500-million Hindi speaking people and very little worth reading. All these books are freely accessible on the internet.

What is your opinion on the current education scenario? Do you think children have become more curriculum-bound?

The educational scenario in the country is bleak – especially the schools run by the government, where most of the poor children go. The middle class and government bureaucrats have washed their hands off these schools. They have set up elite private schools for their own children and have no stake in the

government schools. Starved of political will and funds these schools have gone from bad to worse. Justice Agarwal of the Allahabad High Court gave a landmark judgment a few years ago. The judgment said that – Government servants get their salary, accommodation and all other benefits from the government. The only way to improve government schools and the Public Health System is to make it mandatory for all government servants to send their children to government schools and to avail the service of government hospitals when they are sick. Then these services will improve very fast. But given today's polity such a judgment would be impossible to administer. There would be no political will to implement it.

Rote learning is killing children's creativity. How can children become more creative and, experiment and learn from things around them?

I think the root of rote learning is our premier exams like IITJEE and NEET. There are no marks in these national tests for practical exams. So, the emphasis throughout the school years is on mugging and reproducing. This dulls the senses. The coaching institutes make children conform to tricks of cracking the exams and further kill creativity. Abroad admission to any college of higher learning is based on the performance during the school years, the projects the child has done. Often less than half the total weightage is placed on the entrance test result. This is a more holistic way evaluating a child's potential. All children love activities, but

the overwhelming emphasis on rote learning dissuades them from tinkering and learning through projects.

What would you like to be remembered as – an inventor, a science expert or a teacher?

As a child I wanted to become a primary school teacher. But I soon realised that being a good teacher in a good school will not make much change to the overall educational system. Firstly, I tried to make the best books on Education, Peace, Environment, Science, Math and great children's books available from my website (www.arvindguptatoys.com). Anyone truly interested in education could download them for free. Everyday 12,000 books are downloaded. This just shows the hunger for good books in our people! Our videos Toys from Trash have been viewed over 68 million times! I would like to be known as a teacher who freely shared the best educational resources with the world and touched a few lives.

What is your message for children?

You have only one life. Live your own dream – never the dream of your parents or teachers. Never live the stale dream of a corporation. Live your own dream. Even if you fail living your dream, it's OK.

What is your message for all the teachers/educators of the country?

Teach less but expose them to the whole world. Give children space to explore and discover their innate potential. Children learn a great deal without being taught. Adults seldom understand this. ■